

Amendments to the Specification:

Please replace the paragraph bridging pages 10 and 11 with the following replacement paragraph:

A variety of different substances may be applied to carrier 15 to form coating 17. One such substance is an olefinic material that does not contain any waxes or any silicones, except to the limited extent provided below. (The terms "non-wax" and "non-silicone," when used in the present specification and claims to describe or to define a release layer or coating formed from such a substance, are defined herein to exclude from said release layer or coating the presence of any and all waxes and silicones not encompassed by the limited exceptions provided below.) The coating formed from said olefinic substance has a total surface energy of about 25 to 35 mN/m (preferably about 30 mN/m), of which about 0.1 to 4 mN/m (preferably about 1.3 mN/m) is polar surface energy. When analyzed by XPS (X-ray photoelectron spectroscopy), said coating has a carbon content (by atomic %) of about 90 to 99.9% (preferably about 97%) and an oxygen content (by atomic %) of about 0.1 to 10% (preferably about 3%). Examples of a support portion 13 that includes a carrier 15 and a coating 17 as described above are commercially available from DuPont Corp. (Wilmington, DE) as Mylar MYLAR[®] A701-142 gauge polyester film and Mylar MYLAR[®] A701-200 gauge polyester film. The release force required to peel, at 180 degrees, a unit width of pressure sensitive tape from coating 17 of Mylar MYLAR[®] A701-142 gauge polyester film is 2.117 lb/inch and from coating 17 of Mylar MYLAR[®] A701-200 gauge polyester film is 2.386 lb/inch.

Please replace the paragraph bridging pages 13 and 14 with the following replacement paragraph:

Protective lacquer layer 23, which preferably has a thickness of about 0.1 mil, may be formed from a wide variety of different resins, both water-based and solvent-based, provided that the resultant layer 23 possesses an acceptable degree of abrasion resistance for a fabric article. A preferred formulation from which protective lacquer layer 23 may be printed includes a combination of a high T_g solvent-based phenoxy resin, such as PKHH phenoxy resin (In Chem Corp., Rock Hill, SC), and a low T_g solvent-based polyurethane resin, such as Estane ESTANE 5715 polyurethane resin (Noveon, Inc., Cleveland, OH), such resins preferably being combined in a 1 to 3 ratio with an organic solvent, such as cyclohexanone and/or a dibasic ester (e.g., dimethyl adipate). In addition, an adhesion promoter, such as NB 80 polymeric aliphatic isocyanate adhesion promoter (Nazdar Ink, Shawnee, KS), is preferably included in the formulation to enhance printing quality, said adhesion promoter being present in an amount constituting about 0 to 10%, by weight, more preferably 2 to 8%, by weight. A small amount (less than 1%) of a surfactant, e.g., Zonyl ZONYL FSO fluorosurfactant (DuPont, Wilmington, DE), may also be added to the formulation prior to printing.

Please replace the paragraph spanning lines 10-12 on page 14 with the following replacement paragraph:

Another preferred formulation from which protective lacquer layer 23 may be printed includes 100 parts Nazdar NAZDAR 9627 clear overprint varnish (Nazdar Ink, Shawnee, KS) and 5 parts NB 80 adhesion promoter.

Please replace the paragraph spanning lines 4-19 on page 15 with the following replacement paragraph:

Ink design layer 25 of transfer portion 21, which layer may actually comprise either a single ink layer or a plurality of ink layers, may be formed from one or more of a wide variety of different inks provided that the resultant layer 25 possesses an acceptable degree of adhesion to both protective lacquer layer 23 and primer layer 26. For example, where protective lacquer layer 23 comprises a water-based resin, one may use a water-based ink, such as the Nazdar NAZDAR 2700 series of ~~Aquasafe~~ Gloss AQUASAFE GLOSS P.O.P. water-based screen inks (Nazdar, Shawnee, KS). By contrast, where protective lacquer layer 23 comprises a solvent-based resin, one may use a solvent-based ink, such as the Nazdar NAZDAR 9600 series of polyester inks. (Where the Nazdar NAZDAR 9600 series of polyester inks are used, such inks may be thinned, prior to printing, with about 5-10% of a thinner, such as Nazdar NAZDAR 9630 thinner.) Preferably, an adhesion promoter, such as NB 80 adhesion promoter, is included in the ink formulation to enhance printing quality, said adhesion promoter being present in an amount constituting about 0 to 10%, by weight, more preferably 2 to 8%, by weight. An example of a preferred ink formulation comprises 100 parts Nazdar NAZDAR 96PB22 blue ink and 5 parts NB 80 adhesion promoter.

Please replace the paragraph spanning lines 16-27 on page 16 with the following replacement paragraph:

Adhesive layer 27, which preferably has a thickness of about 4-5 mil, comprises one or more heat-activatable resins and is capable of securely binding to fabric. One example of a suitable adhesive composition for use in forming adhesive layer 27 comprises about 30 g of 5184p polyester powder adhesive (Bostik-Findley, Middleton, MA), about 60 g water, about 10 g PKHW 35 water-based phenoxy dispersion (InChem Corp., Rock Hill, SC) as a binder, about 1 g of Dehydran DEHYDRAN 1620 defoamer (Cognis Corp., Ambler, PA) and about 2-3 g of Tafigel TAFIGEL

PUR 61 thickener (Ultra Additives, Inc., Clover, SC). Preferably, the aforementioned polyester powder adhesive has a particle size of no more than about 80 μ , more preferably no more than about 38-40 μ , in order to facilitate the screen printing of the adhesive formulation. (If the particle size of the polyester powder adhesive is too big, it may be difficult to screen print the adhesive formulation.)

Please replace the paragraph bridging pages 16 and 17 with the following replacement paragraph:

Another adhesive composition differs from the foregoing composition in that 10 g Sancure SANCURE 1601 polyurethane dispersion (Noveon Inc. Cleveland, OH) is used instead of the PKHW 35 water-based phenoxy binder; however, the former composition is much preferred over the latter as the latter tends to cause a yellow discoloration in the label after repeated washing cycles. It is believed that such a discoloration is caused by an adverse reaction between the polyurethane binder and the laundering conditions or environment.

Please replace the paragraph bridging pages 18 and 19 with the following replacement paragraph:

Ink design layer 125 of transfer portion 121, which layer may actually comprise either a single ink layer or a plurality of ink layers, may be formed from one or more of a wide variety of different inks, provided that the resultant layer 125 possesses an acceptable degree of adhesion to primer layer 126 and releases well from release layer 117. Preferably, ink design layer 125 is printed using an ink containing a polyvinyl chloride (PVC) resin. (For purposes of the present specification and claims, the term polyvinyl chloride is defined to encompass both homopolymers and copolymers of vinyl chloride.) An example of a preferred PVC-containing ink comprises 100

parts GNS ~~Bear's Navy~~ BEAR'S NAVY ink (PolyOne Corporation, Avon Lake, OH), 10 parts ~~Acumist~~ ACUMIST B9 wax (Honeywell International Inc., Morristown, NJ), 5 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH) and 1 part zinc oxide (Sigma-Aldrich Co., Milwaukee, WI) as a cross-linker.

Please replace the paragraph bridging pages 19 and 20 with the following replacement paragraph:

Primer layer 126, which provides structural integrity to transfer portion 121 and which promotes adhesion between ink layer 125 and adhesive layer 127, may comprise either a single primer layer or a plurality of primer layers. Preferably, primer layer 126 is printed using a primer composition comprising at least one of the following polymers: one or more polyurethane polymers, one or more phenoxy polymers, and one or more polyvinyl chloride polymers. An example of a preferred primer composition comprises 100 parts ~~Printable Adhesive~~ PRINTABLE ADHESIVE PVC primer plastisol (PolyOne Corporation, Avon Lake, OH) and 15 parts ~~Geon~~ GEON 124 PVC resin (PolyOne Corporation, Avon Lake, OH).

Please replace the paragraph spanning pages 11-24 on page 20 with the following replacement paragraph:

Adhesive layer 127, which preferably has a thickness of about 10 to 200 microns, more preferably about 20 to 80 microns, comprises one or more heat-activatable resins and is capable of securely binding to fabric, adhesive layer 127 preferably having a melting point in the range of about 60 to 150°C, more preferably about 80 to 120°C. Examples of resins suitable for use in forming adhesive layer 127 include polyester resins, such as HMP 5184 V polyester powder adhesive resin (Bostik-Findley, Middleton, MA), and polyamide resins, such as ~~Griltex~~ GRILTEX 2AP1 polyamide

resin (Griltech, Sumter, SC). A specific example of a suitable adhesive composition for use in forming adhesive layer 127 comprises 450 parts HMP 5184 V polyester powder resin (Bostik-Findley, Middleton, MA) as an adhesive, 150 parts PKHW 35 phenoxy dispersion (InChem Corp., Rock Hill, SC) as a binder, 110 parts ~~Tafigel~~ TAFIGEL PUR 61 thickener (Ultra Additives, Inc., Clover, SC), 12 parts ~~Dehydran~~ DEHYDRAN 1620 defoamer (Cognis Corp., Ambler, PA), 6 parts ~~Zonyl~~ ZONYL FSA wetting agent (DuPont, Wilmington, DE), and 1800 parts water.

Please replace the paragraph spanning lines 12-23 on page 21 with the following replacement paragraph:

Heat-transfer label 211 also comprises a wax layer 219, wax layer 219 overcoating release layer 217 of support portion 213. Wax layer 219, which serves to facilitate the release of the transfer portion to be described below from support portion 213, preferably has a thickness of about 1 to 20 microns, more preferably about 4 to 15 microns, and preferably has a melting point of about 60 to 130°C, more preferably about 80 to 120°C. Wax layer 219 preferably comprises a polyethylene-based wax and may be printed (preferably by screen printing) from a composition comprising 1350 parts ~~Acumist~~ ACUMIST D5 powdered wax (Honeywell, Morristown, NJ), 450 parts ME 48040 M2 wax emulsion (Michaelman, Cincinnati, OH), 300 parts ~~Tafigel~~ TAFIGEL PUR 61 thickener (Ultra Additive, Clover, SC), 36 parts ~~Dehydran~~ DEHYDRAN 1620 defoamer (Cognis, Ambler, PA), ~~Zonyl~~ ZONYL FSA wetting agent (DuPont, Wilmington, DE), and 5400 parts water.

Please replace the paragraph bridging pages 21 and 22 with the following replacement paragraph:

Preferably, the aforementioned formulation is prepared using a ~~Hockmeyer~~ HOCKMEYER mixer (Hockmeyer Equipment Corporation, Elizabeth City, NC) to form a uniform, stable wax

slurry, which is storage stable under ambient conditions in a closed container. Screen printing of the formulation may be performed using a 250 mesh screen at a print speed of 2100 imprints per hour. The printed wax layer may be dried and melted by heat from UV and IR lamps of a ~~Smag~~ SMAG press (Smag Graphique, Savigny-Sur-Orge Cedex, France). Solidification and crystallization of the wax may be achieved by forced air cooling after exiting the heating zone.

Please replace the paragraph bridging pages 22 and 23 with the following replacement paragraph:

Ink design layer 225 of transfer portion 221 may actually comprise either a single ink layer or a plurality of ink layers. Preferably, ink design layer 225 comprises a polyvinyl chloride (PVC) resin that has been cross-linked using at least one cross-linker, said at least one cross-linker preferably having more than one functional group per molecule, said functional group being at least one of isocyanate, aziridine, carbodiimide, alkoxyethyl and methylol. (Without wishing to be limited to any particular theory as to how the invention operates, the present inventors believe that the cross-linking of the PVC resin in ink design layer 225 impedes the diffusion of ink within ink design layer 225 during heat transfer.) An example of a suitable ink composition for use in making ink design layer 225 comprises 144 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH), 80 parts CYMEL 303 hexamethoxymethyl melamine crosslinker (Cytec Corp., West Paterson, NJ), 54 parts ~~Santicizer~~ SANTICIZER 160 benzyl butyl phthalate plasticizer (Ferro, Cleveland, OH), 54 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL), 25.2 parts CYCAT 296-9 catalyst (Cytec Corp., West Paterson, NJ), 20.08 parts ~~Violet~~ VIOLET PC colorant (PolyOne Corporation, Avon Lake, OH), 15.48 parts ~~Blue~~ BLUE PC colorant (PolyOne

Corporation, Avon Lake, OH) and 5.04 parts ~~Bright Yellow~~ BRIGHT YELLOW PC colorant (PolyOne Corporation, Avon Lake, OH).

Please replace the paragraph bridging pages 23 and 24 with the following replacement paragraph:

Primer layer 226, which provides some structural support to ink design layer 225 as adhesive layer 227 softens during heat transfer (and, in so doing, impedes distortion of the design of ink layer 225), may comprise either a single primer layer or a plurality of primer layers. Preferably, primer layer 226 comprises a cross-linker and at least one of the following polymers: one or more polyurethane polymers, one or more phenoxy polymers, and one or more polyvinyl chloride polymers. Said cross-linker preferably has more than one functional group per molecule, said functional group being at least one of isocyanate, aziridine, carbodiimide, alkoxymethyl and methylol. An example of a preferred primer composition comprises 100 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH), 55 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 55 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL), and 10.5 parts NB 80 adhesion promoter (Nazdar, Shawnee, KS).

Please replace the paragraph spanning lines 12-24 of page 24 with the following replacement paragraph:

Adhesive layer 227, which preferably has a thickness of about 10 to 200 microns, more preferably about 20 to 80 microns, comprises one or more heat-activatable resins and is capable of securely binding to fabric, adhesive layer 227 preferably having a melting point in the range of about 60 to 150°C, more preferably about 80 to 120°C. Examples of resins suitable for use in forming adhesive layer 227 include polyesters, such as HMP 5184 V polyester powder adhesive resin

(Bostik-Findley, Middleton, MA), polyamides, such as Griltex GRILTEX 4AP1 polyamide resin (Griltech, Sumter, SC), and polyvinyl chlorides, such as Geon GEON 137 PVC resin (PolyOne, Avon Lake, OH). A specific example of a suitable adhesive composition for use in forming adhesive layer 227 comprises 100 parts Geon GEON 137 PVC resin (PolyOne, Avon Lake, OH), 55 parts Santicizer SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 55 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL) and 47 parts Griltex GRILTEX 4AP1 adhesive (Griltech, Sumter, SC).

Please replace the paragraph bridging pages 26 and 27 with the following replacement paragraph:

Adhesive layer 323, which preferably has a thickness of about 10 to 200 microns, more preferably about 20 to 80 microns, has a melting point in the range of about 60 to 150°C, more preferably about 80 to 120°C, and is capable of bonding securely to fabrics. In addition, adhesive layer 323 has a sufficiently smooth top surface to enable the legible printing of ink design layer 325 thereonto. The present inventors have determined that, to obtain a desirably smooth top surface, the surface roughness of adhesive layer 323 preferably should not exceed more than about 15 microns. Accordingly, an example of a suitable adhesive composition comprises 450 parts HMP 5184 V polyester powder resin (Bostik-Findley, Middleton, MA) as an adhesive, 150 parts PKHW 35 phenoxy dispersion (InChem Corp., Rock Hill, SC) as a binder, 110 parts Tafigel TAFIGEL PUR 61 thickener (Ultra Additives, Inc., Clover, SC), 12 parts Dehydran DEHYDRAN 1620 defoamer (Cognis Corp., Ambler, PA), 6 parts Zonyl ZONYL FSA wetting agent (DuPont, Wilmington, DE), and 1800 parts water. Such a polyester-containing adhesive composition results in an adhesive layer having a surface roughness of about 6-10 microns. Another example of a suitable adhesive

composition comprises 100 parts ~~Geon~~ GEON 137 PVC resin (PolyOne, Avon Lake, OH), 55 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH) and 55 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL). Such a PVC-containing adhesive composition has been found to yield an adhesive layer having a surface roughness of less than 1 micron. Because the PVC-containing adhesive layer produced by the latter composition yields a smoother top surface than does the polyester-containing adhesive layer produced by the former composition, said PVC-containing adhesive layer is better for printing images and lettering of small size or requiring high resolution. In addition, the above-described PVC-containing adhesive layer appears to be more resistant to cracking, following repeated washing cycles, than the above-described polyester-containing adhesive layer.

Please replace the paragraph spanning lines 9-23 of page 27 with the following replacement paragraph:

Ink design layer 325 of transfer portion 321 may actually comprise either a single ink layer or a plurality of ink layers. In order to maintain the structural integrity of the transferred label, ink design layer 325 must be compatible with adhesive layer 323 and may be similar in composition thereto. Particularly where adhesive layer 323 is a PVC-containing adhesive layer, ink design layer 325 is preferably formed using a PVC-based ink. An example of a suitable PVC-containing ink composition for use in making ink design layer 325 comprises 720 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH), 350 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 350 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL), 140.4 parts ~~Violet~~ VIOLET PC colorant (PolyOne Corporation, Avon Lake, OH), 77.4 parts ~~Blue~~ BLUE PC colorant (PolyOne Corporation, Avon Lake, OH) and 25.2 parts ~~Bright Yellow~~ BRIGHT YELLOW

PC colorant (PolyOne Corporation, Avon Lake, OH). As can readily be seen, such an ink composition is very similar in composition to the above-described PVC adhesive composition, and ink design layer 325 itself bonds to the fabric or other item to which label 311 is applied.

Please replace the paragraph spanning lines 21-30 on page 29 with the following replacement paragraph:

Ink design layer 525 may actually comprise either a single ink layer or a plurality of ink layers. Preferably, ink design layer 525 is formed using a non-cross-linked PVC-based ink. An example of a suitable non-cross-linked PVC-containing ink composition for use in making ink design layer 525 comprises 720 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH), 350 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 350 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL), 140.4 parts ~~Violet~~ VIOLET PC colorant (PolyOne Corporation, Avon Lake, OH), 77.4 parts ~~Blue~~ BLUE PC colorant (PolyOne Corporation, Avon Lake, OH) and 25.2 parts ~~Bright Yellow~~ BRIGHT YELLOW PC colorant (PolyOne Corporation, Avon Lake, OH).

Please replace the paragraph spanning lines 3-13 on page 32 with the following replacement paragraph:

Stretch layer 722, which endows transfer portion 721 with a certain degree of elasticity (in order to permit transfer portion 721 to withstand better the stretching of fabric to which portion 721 is secured), preferably has a thickness of about 5 to 100 microns, more preferably about 10 to 80 microns. Preferably, stretch layer 722 comprises at least one of a polyester block copolymer, such as ~~Hytrel~~ HYTREL polyester block copolymer (DuPont, Wilmington, DE), a polyurea polymer, and a polyurethane polymer, such as ~~Estane~~ ESTANE polyurethane polymer (Noveon, Cleveland, OH),

Sancure (Noveon, Cleveland, OH) or ~~NeoRez~~ NEOREZ polyurethane polymer (NeoResins, Wilmington, MA). An example of a suitable composition that may be used to produce stretch layer 722 comprises 50 parts ~~Sancure~~ SANCURE 835 (Noveon, Cleveland, OH), 2 parts ~~Tafigel~~ TAFIGEL PUR 61 thickener (Ultra Additives, Inc., Clover, SC) and 0.2 parts ~~Dehydran~~ DEHYDRAN 1620 defoamer (Cognis Corp., Ambler, PA).

Please replace the paragraph bridging pages 32 and 33 with the following replacement paragraph:

Ink design layer 725 of transfer portion 721 may actually comprise either a single ink layer or a plurality of ink layers. In order to maintain the structural integrity of the transferred label, ink design layer 725 must be compatible with adhesive layer 723 and may be similar in composition thereto. Particularly where adhesive layer 723 is a PVC-containing adhesive layer, ink design layer 725 is preferably formed using a PVC-based ink. An example of a suitable PVC-containing ink composition for use in making ink design layer 725 comprises 40.6 parts ~~Geon~~ GEON 137 PVC resin (PolyOne Corporation, Avon Lake, OH), 22.3 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 22.3 parts dioctyl phthalate plasticizer (ChemCentral, Bedford Park, IL), 5.5 parts ~~Violet~~ VIOLET PC colorant (PolyOne Corporation, Avon Lake, OH), 4.4 parts ~~Light Brown~~ LIGHT BROWN PC colorant (PolyOne Corporation, Avon Lake, OH) and 4.1 parts ~~Bright Blue~~ BRIGHT BLUE PC colorant (PolyOne Corporation, Avon Lake, OH).

Please replace the paragraph spanning lines 13-26 on page 43 with the following replacement paragraph:

Heat-transfer label 1411 is similar in most respects to heat-transfer label 311, the principal difference between the two labels being that label 1411 includes, instead of ink layer 325, an ink

layer comprising a conventional ink design 1423, a thermochromic ink design 1425 and a marking 1427. Conventional ink design 1423 may be printed on adhesive layer 323 in the same manner and using the same types of inks as ink layer 325. Thermochromic ink design 1425 may be printed on adhesive layer 323 in a similar fashion as conventional ink design 1423, except that a thermochromic ink is used instead of a non-thermochromic ink. Thermochromic ink design 1425 may be used as a security feature, such as an authenticity certificate in the form of a product logo. When subjected to heat (e.g., using a hand-held heater), the appearance of the product logo changes color, thereby signaling to a party that the product is authentic or authorized for sale. An example of a thermochromic ink suitable for use in printing ink layer 1425 is commercially available from Matsui International (Gardena, CA) as ~~Chromiclor Fast Blue~~ CHROMICOLOR FAST BLUE ink.

Please replace the paragraph spanning lines 5-14 on page 44 with the following replacement paragraph:

Label 1511 is similar in most respects to label 311, the principal difference between the two labels being that label 1511 includes an adhesive layer 1523, instead of adhesive layer 323. Adhesive layer 1523 differs from layer 323 in that it additionally includes a light-activated pigment. Consequently, layer 1523 functions as a security (e.g. anti-counterfeit) layer by emitting light of a signature color when activated by light of a particular wavelength. An example of an adhesive composition suitable for use in making layer 1523 includes 100 parts ~~Geon~~ GEON 137 PVC resin (PolyOne, Cleveland, OH), 55 parts ~~Santicizer~~ SANTICIZER 160 plasticizer (Ferro, Cleveland, OH), 55 parts dioctyl phthalate (ChemCentral, Bedford Park, IL) and 21 parts ~~Luminova~~ LUMINOVA BG-300M phosphorescent pigment (UMC, Lyndhurst, NJ).

Please replace the paragraph spanning lines 15-16 on page 44 with the following replacement paragraph:

Alternatively, one may replace adhesive layer 1523 with an ink layer printed from **Photopia Purple** PHOTOPIA PURPLE UV sensitive ink (Matsui International, Gardena, CA).